Employment [b*eginning-of-quarter*]

Datafile label: Emp

QWI indicator: Worker employment

Level of measurement: Job (PIK-SEIN pair)

Level of estimation: A worker's job

Employment status: Point-in-time

Definition: Individual (i) who was employed at firm (j) in the reference (t) quarter and the previous (t-1) quarter.

Explanation:
- The total number of workers who were employed by a given employer on the first calendar day of the reference quarter.
- Count of workers employed by a given employer (at the beginning of the reference quarter).
- Represents an employment status in the reference quarter.
- Employment [beginning-of-quarter] (Emp) defines a category of workers.

Measure:

$$b_{(ijt)} = \begin{cases} 1, \text{ if } m_{(ijt-1)} = 1 \,\&\, m_{(ijt)} = 1 \\ 0, \text{ otherwise} \end{cases}$$

$$m_{(ijt)} = \begin{cases} 1, \text{ if individual } i \text{ has positive earnings at} \\ \quad \text{establishment } j \text{ during year/quarter } t \\ 0, \text{ otherwise} \end{cases}$$

(See above Definition and Explanation sections for a narrative description.)

QWI availability: Not defined for the first quarter of available data from a given state.

Employment [b*eginning-of-quarter*] (Emp) Example:

The State of New Columbia contains three firms, Happy Teeth, Quick Lunch, and Daily Tribune. For the purpose of estimating Employment [*beginning-of-quarter*] (Emp), the reference quarter is 1996:Q3.

History of UI Wage Reports for HAPPY TEETH				Emp
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Almez		**$ 6,000**	$ 5,750	
Suresh	$ 8,500	**$ 8,500**	$ 8,750	1
Tom	$ 4,000	**$ 4,250**	$ -	1
Iona	$ -	**$ 5,000**	$ 5,000	
Dr. Ali	$12,750	**$13,000**	$13,250	1
Total for employees who fit the definition of Emp in the reference (1996:Q3) quarter:				3

At Happy Teeth, Suresh, Tom and Dr. Ali were employed in the reference (1996:Q3) quarter and previous (1996:Q2) quarter. The firm had an Emp of 3 jobs.

History of UI Wage Reports for QUICK LUNCH				Emp
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Ly	$ -	**$ 6,000**	$ 5,750	
Ms. White	$ -	**$ 8,500**	$ 8,750	
Total for employees who fit the definition of Emp in the reference (1996:Q3) quarter:				0

At Quick Lunch, no one was employed in the previous (1996:Q2) quarter because the firm opened in the reference (1996:Q3) quarter. The firm had an Emp of 0 jobs.

History of UI Wage Reports for DAILY TRIBUNE				Emp
Employees		**1996:Q3**	1996:Q4	**1996:Q3**
Chaitley	$ 6,003	**$ 6,000**	$ -	1
Khone	$ 8,500	**$ 8,500**	$ -	1
Mr. Ramirez	$ 4,000	**$ 4,025**	$ -	1
Total for employees who fit the definition of Emp in the reference (1996:Q3) quarter:				3

At Daily Tribune, Chaitley, Khone, and Mr. Ramirez were employed in the reference (1996:Q3) quarter and previous (1996:Q2) quarter.   The firm had an Emp of 3 jobs.

Both Happy Teeth and Daily Tribune had employees who were employed in the reference (1996:Q3) quarter and previous (1996:Q2) quarter, fitting the definition of Emp. So their Emp is summed. Employment [*beginning-of-quarter*] (Emp) for the State of New Columbia in the reference (1996:Q3) quarter is 6 jobs.

Totals for the STATE OF NEW COLUMBIA	Emp
Happy Teeth	3
Daily Tribune	3
Total:	6

Employment End-of-Quarter

Datafile label: EmpEnd

QWI indicator: Worker employment

**Level of
measurement:**   Job (PIK-SEIN pair)

Level of estimation: A worker's job

Employment status: Point-in-time

Definition: Individual (i) who was employed at firm (j) in the reference (t)
                        quarter and the subsequent (t+1) quarter.

Explanation:
- The total number of workers who were employed by a given employer on the last calendar day of the reference quarter.
- Count of workers employed by a given employer (at the end of the reference quarter).
- Represents an employment status in the reference quarter.
- Employment End-of-Quarter (EmpEnd) defines a category of workers.

Measure:

$$e_{(ijt)} = \begin{cases} 1, \text{ if } m_{(ijt)} = 1 \ \& \ m_{(ijt+1)} = 1 \\ 0, \text{ otherwise} \end{cases}$$

$$m_{(ijt)} = \begin{cases} 1, \text{ if individual } i \text{ has positive earnings at} \\ \quad \text{establishm ent } j \text{ during year/quart er } t \\ 0, \text{ otherwise} \end{cases}$$

(See above Definition and Explanation sections for a narrative description.)

QWI availability: Not defined for the first or final quarters of available data from
                          a given state.

Employment End-of-Quarter (EmpEnd) Example:

The State of New Columbia contains three firms, Happy Teeth, Quick Lunch, and Daily Tribune. For the purpose of estimating Employment End-of-Quarter (EmpEnd), the reference quarter is 1996:Q3.

History of UI Wage Reports for HAPPY TEETH				EmpEnd
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Almez	$ -	**$ 6,000**	$ 5,750	1
Suresh	$ 8,500	**$ 8,500**	$ 8,750	1
Tom	$ 4,000	**$ 4,250**	$ -	
Iona	$ -	**$ 5,000**	$ 5,000	1
Dr. Ali	$12,750	**$13,000**	$13,250	1
Total for employees who fit the definition of EmpEnd in the reference (1996:Q3) quarter:				4

At Happy Teeth, Almez, Suresh, Iona, and Dr. Ali were employed in the reference (1996:Q3) quarter and subsequent (1996:Q4) quarter. The firm had an EmpEnd of 4 jobs.

History of UI Wage Reports for QUICK LUNCH				EmpEnd
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Ly	$ -	**$ 6,000**	$ 5,750	1
Ms. White	$ -	**$ 8,500**	$ 8,750	1
Total for employees who fit the definition of EmpEnd in the reference (1996:Q3) quarter:				2

At Quick Lunch, Ly and Ms. White were employed in the reference (1996:Q3) quarter and Subsequent (1996:Q4) quarter. The firm had an EmpEnd of 2 jobs.

History of UI Wage Reports for DAILY TRIBUNE				EmpEnd
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Chaitley	$ 6,003	**$ 6,000**	$ -	
Khone	$ 8,500	**$ 8,500**	$ -	
Mr. Ramirez	$ 4,000	**$ 4,025**	$ -	
Total for employees who fit the definition of EmpEnd in the reference (1996:Q3) quarter:				0

At Daily Tribune, no one was employed in the subsequent (1996:Q4) quarter because the firm closed in the reference (1996:Q3) quarter. The firm had an EmpEnd of 0 jobs.

Both Happy Teeth and Quick Lunch had employees who were employed in the reference (1996:Q3) quarter and subsequent (1996:Q4) quarter, fitting the definition of EmpEnd. So their EmpEnd is summed. Employment End-of-Quarter (EmpEnd) for the State of New Columbia in the reference (1996:Q3) quarter is 6 jobs.

Totals for the STATE OF NEW COLUMBIA	EmpEnd
	1996:Q3
Happy Teeth	4
Quick Lunch	2
Total:	6

Employment Stable Jobs

Datafile label:	EmpS
QWI indicator:	Worker employment
Level of measurement:	Job (PIK-SEIN pair)
Level of estimation:	A worker's job
Employment status:	Full quarter
Definition:	Individual (i) who was employed at firm (j) in the reference (t) quarter, the previous (t-1) quarter, and the subsequent (t+1) quarter.

Explanation:

- Total number of workers employed by a given employer for three consecutive quarters.
- Count of workers employed in stable jobs.
- Represents a change to full-quarter status during the reference quarter.
- Employment Stable Jobs (EmpS) defines a category of workers.

Measure:

$$f_{(ijt)} = \begin{cases} 1, \text{ if } m_{(ijt-1)} = 1 \ \& \ m_{(ijt)} = 1 \ \& \ m_{(ijt+1)} = 1 \\ 0, \text{ otherwise} \end{cases}$$

$$m_{(ijt)} = \begin{cases} 1, \text{ if individual } i \text{ has positive earnings at} \\ \quad \text{establishment } j \text{ during year/quarter } t \\ 0, \text{ otherwise} \end{cases}$$

(See above Definition and Explanation sections for a narrative description.)

QWI availability: Not defined for the first or final quarters of available data from a given state.

Employment Stable Jobs (EmpS) Example:

The State of New Columbia contains three firms, Happy Teeth, Quick Lunch, and Daily Tribune. For the purpose of estimating Employment Stable Jobs (EmpS), the reference quarter is 1996:Q3.

History of UI Wage Reports for HAPPY TEETH				EmpS
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Almez	$ -	**$ 6,000**	$ 5,750	
Suresh	$ 8,500	**$ 8,500**	$ 8,750	1
Tom	$ 4,000	**$ 4,250**	$ -	
Iona	$ -	**$ 5,000**	$ 5,000	
Dr. Ali	$12,750	**$13,000**	$13,250	1
Total for employees who fit the definition of EmpS in the reference (1996:Q3) quarter:				2

At Happy Teeth, Suresh and Dr. Ali were employed in the reference (1996:Q3), subsequent (1996:Q4) and previous (1996:Q2) quarters. The firm had an EmpS of 2 jobs.

History of UI Wage Reports for QUICK LUNCH				EmpS
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Ly	$ -	**$ 6,000**	$ 5,750	
Ms. White	$ -	**$ 8,500**	$ 8,750	
Total for employees who fit the definition of EmpS in the reference (1996:Q3) quarter:				0

At Quick Lunch, no one was employed in the previous (1996:Q2) quarter because the firm opened in the reference (1996:Q3) quarter. The firm had an EmpS of 0 jobs.

History of UI Wage Reports for DAILY TRIBUNE				EmpS
Employees	1996:Q2	**1996:Q3**	1996:Q4	**1996:Q3**
Chaitley	$ 6,003	**$ 6,000**	$ -	
Khone	$ 8,500	**$ 8,500**	$ -	
Mr. Ramirez	$ 4,000	**$ 4,025**	$ -	
Total for employees who fit the definition of EmpS in the reference (1996:Q3) quarter:				0

At Daily Tribune, no one was employed in the subsequent (1996:Q4) q uarter because the firm closed in the reference (1996:Q3) quarter. The firm had an EmpS of 0 jobs.

Only Happy Teeth had employees who were employed in the reference (1996:Q3) quarter, the subsequent (1996:Q4) quarter, and the previous (1996:Q2) quarter, fitting the definition of EmpS. So its EmpS is summed. Employees Stable Jobs (EmpS) for the State of New Columbia in the reference (1996:Q3) quarter is 2 jobs.

Totals for the STATE OF NEW COLUMBIA	EmpS
	1996:Q3
Happy Teeth	2
Total:	2

QWI Definitions at a Glance

Lead/Lag Notation	Date	Emp	EmpEnd	EmpS
t-6	1995:Q1			
t-5	1995:Q2			
t-4	1995:Q3			
t-3	1995:Q4			
t-2	1996:Q1			
t-1	1996:Q2	1		1
t (reference)	**1996:Q3**	**1**	**1**	**1**
t+1	1996:Q4		1	1
t+2	1997:Q1			
t+3	1997:Q2			
t+4	1997:Q3			
t+5	1997:Q4			

t(reference)= the year/quarter for which the QWI estimate is calculated

1= PIK-SEIN pairing observed in the reference quarter is present in the designated quarter.

0= PIK-SEIN pairing observed in the reference quarter is not present in the designated quarter.

QWI

Emp	Employment [b*eginning-of-quarter*]	Individual (i) who was employed at firm (j) in the reference (t) quarter and the previous (t-1) quarter.
EmpEnd	Employment End-of-Quarter	Individual (i) who was employed at firm (j) in the reference (t) quarter and the subsequent (t+1) quarter.
EmpS	Employment Stable Jobs	Individual (i) who was employed at firm (j) in the reference (t) quarter, the previous (t-1) quarter, and the subsequent (t+1) quarter.

QWI Availability at a Glance

State Input Data	Date	Emp	EmpEnd	EmpS
first quarter	1990:Q1	X	X	X
	1990:Q2			
	1990:Q3			
	1990:Q4			
	1991:Q1			
	1991:Q2			
	1991:Q3			
	1991:Q4			
	:::			
	:::			
	:::			
	:::			
	2002:Q1			
	2002:Q2			
	2002:Q3			
	2002:Q4			
	2003:Q1			
	2003:Q2			
	2003:Q3			
last quarter	2003:Q4		X	X

State Input Data- State ES202 and UI Wage Records

X- QWI estimate is not calculated